Commentary

SBRT (Stereotactic Body Radiotherapy) in Recurrent Head Neck Cancer - Boon or Bane?

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Stereotactic body radiotherapy (SBRT) has emerged as a potential treatment approach for recurrent head and neck cancers, but its role remains controversial. This concise clinical perspective summarizes the current evidence on SBRT for recurrent head and neck cancers and discusses key considerations regarding appropriate patient selection, treatment planning, toxicity risks, and combination with other therapies. The author concludes that SBRT may provide benefits for select recurrent head and neck cancer patients, but more research is still needed to determine optimal use.

Over the last decade, there have been significant improvements in radiation (RT) delivery methods in head neck cancers (HNC), leading to improved quality of life and outcomes in select cases. Despite that, locoregional recurrences and second primary cancers remain a major hindrance in 20-40% of patients [1][2]. Reirradiation goes through a narrow window between cure and toxicity. Till date, surgical salvage, if feasible, remains the best possible method for cure in a recurrent HNC patient. Over the years, through several retrospective and prospective databases, the same has been documented, and MIRI (Multi-institutional Reirradiation) consortium is the latest evidence [3]. Appropriate patient selection, site, and volume of recurrent HNC, duration from previous RT, and many other factors and nomograms can predict outcomes in these cohorts [4][5]. Among all, the duration from previous RT, and especially 2 years or more, remains a key deciding factor.

SBRT is a form of modern conformal high-precision external beam radiotherapy (EBRT) that can provide various radiobiological benefits by delivering multiple small beams, smaller irradiated volume, hypofractionation, and a possible dose escalation [6][7]. Rwigema et.al. have mentioned a dose of 40 Gy in 5 fractions or above, and smaller recurrent tumor volumes (<25 cc) to be associated with

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better survival [6]. The similar data came out later in MIRI consortium for RPA category II patients. The International Radiosurgery Society endorsed the dose volume recommendation in lieu with previous publications. There have been sparse data for SBRT in HNC, and a survey by Karam et.al. showed varied practices [8]. The major concerns among the radiation oncology community have been toxicity followed by appropriate case selection and expertise and training. Till date, there are no head-to-head comparisons between surgical salvage and SBRT in rHNC, and surgical salvage remains preferred and effective. There are phase II data for SBRT with Cetuximab demonstrating favourable local control and overall survival [9][10]. The RPA category III patients (unresectable and <2 years from previous RT), if with good performance status, should be considered as a future clinical trial cohort for SBRT.

The technical requirements for performing SBRT in HNC need to be stringent, especially related to contouring, with special mention to skin, carotids, spinal cord, brainstem, and other organs at risk. Published international guidelines exist, and departmental protocols are needed for a seamless workflow for HNC SBRT [11]. Yamazaki et.al. have analyzed the dreaded carotid blowout syndrome in rHNC treated by reirradiation, and it is multifactorial [12]. There is a recent concept of extreme organs at risk (OARextreme) and overlapping volumes while evaluating plans for SBRT [13][14]. Many studies are undergoing for the evaluation of SBRT with immunotherapy, and the optimal combination remains elusive [15]. Exciting data are surfacing among elderly patients for primary SBRT with or without immunotherapy, SBRT in medically unfit surgery-denied patients, for early glottic cancers, and in the postoperative setting, albeit all under trial scenarios. The International Geriatric Radiotherapy Society has published recommendations for the same [16][17]. Like other sites of malignancies, there is some enthusiasm for oligometastatic HNC, especially in nasopharynx and P16+ HNC. In these clinical situations, SBRT does have a role to play [18].

Unfortunately, we do not have any Indian consensus guidelines for SBRT in HNC, although several single-institute retrospective series have been published. The key points are smaller recurrent volumes of tumours, more significant gaps from primary RT, and effective planning and dose constraints [19][20]. Very recently, the American Radium Society published an appropriate usage of reirradiation executive summary, including SBRT in HNC. The committee could not reach any consensus regarding the use of SBRT; however, dosages more than 35-40 Gy in 5 fractions, strict OAR constraints, and RPA category III remain critical for further evaluation [21].

SBRT in rHNC is an important tool that requires adequate training and safe delivery methods for its optimal outcome. A nationwide prospective database and the formulation of working guidelines will help in determining the most favourable cohort.

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